

AMENDMENTS TO THE CLAIMS

1-23. (Cancelled)

24. (New) A method of treating at least one flat panel display current emitter, said method comprising:

a) exposing at least a portion of said at least one current emitter to a hydrogenation process comprising plasma enhanced chemical vapor deposition process conducted in the presence of a silane gas in a reaction chamber; and

b) exposing at least a portion of said at least one current emitter to a nitrogen infusion process.

25. (New) A method as in claim 24, wherein said nitrogen infusion process is conducted in said reaction chamber following said plasma enhanced chemical vapor deposition process.

26. (New) A method as in claim 24, wherein said nitrogen infusion process is conducted in the presence of ammonia gas.

27. (New) A method as in claim 26, wherein said plasma enhanced chemical vapor deposition process is conducted with a silane gas flow rate of about 1000 sccm, and RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr and for a period of about 5 to 10 minutes.

28. (New) A method as in claim 27, wherein said nitrogen infusion process is conducted with an ammonia gas flow rate of about 500 sccm, an RF power of about 300-400 watts, a chamber pressure of about 1200 mtorr and for a period of about 10 to 15 minutes.

29. (New) A method as in claim 24, wherein said current emitter includes a base portion surrounded by an insulator and said current emitting portion extends from said insulator.

30. (New) A method as in claim 24, further comprising:

performing steps (a) and (b) on a plurality of current emitters.

31. (New) A method as in claim 30, further comprising:

sealing said plurality of current emitters in a field emission display device.

32. (New) A method of fabricating a field emission device, said method comprising:

treating the tips of the current emitters of said field emission device with plasma enhanced chemical vapor deposition hydrogenation in the presence of silane gas in a chamber; and

treating said tips with nitrogen plasma while said tips are still in said chamber.

33. (New) A method of treating at least one flat panel display current emitter, said method comprising:

a) exposing at least a portion of said at least one current emitter to a hydrogenation process comprising plasma enhanced chemical vapor deposition conducted in the presence of a silane gas in a reaction chamber, wherein said plasma enhanced chemical vapor deposition process is conducted with a silane gas flow rate of about 1000 sccm; and

b) exposing at least a portion of said at least one current emitter to a nitrogen infusion process in said reaction chamber.

34. (New) A method as in claim 33, wherein said plasma enhanced chemical vapor deposition process is conducted with an RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr, and a deposition period of about 5 to 10 minutes.

35. (New) A method as in claim 33, wherein said nitrogen infusion process comprises exposing said at least a portion of the at least one current emitter to ammonia.

36. (New) A method as in claim 35, wherein said nitrogen infusion process is conducted with an ammonia gas flow rate of about 500 sccm, an RF power of about 300-400 watts, a chamber pressure of about 1200 mtorr, and an exposure period of about 10 to 15 minutes.

37. (New) A method of fabricating a field emission device, said method comprising:

treating the tips of the current emitters of said field emission device with plasma enhanced chemical vapor deposition hydrogenation in the presence of a silane gas in a chamber, wherein said plasma enhanced chemical vapor deposition process is conducted with a silane gas flow rate of about 1000 sccm, an RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr, and a deposition period of about 5 to 10 minutes; and

treating said tips with nitrogen plasma while said tips are still in said chamber.

38. (New) A method as in claim 37, wherein said step of treating the tips is conducted with an ammonia gas flow rate of about 500 sccm, an RF power of about 300-400 watts, a chamber pressure of about 1200 mtorr, and an exposure period of about 10 to 15 minutes.